

QTP 4R0X1C
March 1999

MAGNETIC RESONANCE IMAGING



QUALIFICATION TRAINING PACKAGE

Medical Flight
381st Training Squadron
917 Missile Road
Sheppard AFB TX 76311-2246

QTP Developers: SMSgt Robert Kintz (subject-matter-expert)
SMSgt Scott Warnberg (editor for format)

Training Manager: Joe N. Kauffman

Office of Primary Responsibility: 74 MDSS/SGSX
Certified By: CMSgt Darryl W. Lee
Pages: 74

Magnetic Resonance Imaging, Qualification Training Package (QTP) contains modules on most of the core tasks identified in the 4R0X1C STS. This QTP is designed to enhance 3-, 5-, and 7-skill level OJT of MRI personnel. This QTP is intended to be used by trainees, trainers, supervisors, and task certifiers. This package is available on computer disk, so you may reproduce copies as necessary; however, before initiating any training you should review your responsibilities--as a supervisor/trainer--for conducting on-the-job training (OJT) per AFI 36-2201, *Developing, Managing, and Conducting Training*.

QTPs provide continuity to the trainee's upgrade training. The QTP modules were written to assist you in preparing for and conducting training. You *must* use the QTP modules for training when either: 1) the STS task is a core task (minimum qualification for the specialty); or 2) you have identified the STS task as a requirement of the trainee's job. Each module segments the major tasks into teachable elements. Your goal is to provide enough training and guidance so trainees can do all task related steps, without assistance, and produce a scan that meets local requirements for speed and image quality. QTPs also aid OJT task certifiers in evaluating the trainees demonstrated performance. If you have local training requirements not covered by a QTP module you *should* develop "steps in performance" and "performance checklists" that support and standardize those tasks. Accompanying this QTP is a *qualification training progress record*.

This QTP record serves as a document to record the date trainee completes each module. All persons in qualification/upgrade training *must* have this QTP progress record filed in their OJT folder. Use and annotation of this progress record is similar to current OJT documentation. When *you* are satisfied the trainee meets standards, as prescribed in the QTP performance checklist, *you* must document and initial each task completion date in column 2B of the Specialty Training Standard (STS) and the "date completed" column in the QTP progress record. If a person is being recertified on a task that is supported by a QTP you must use that module to complete the recertification process. It is *not* necessary to produce multiple hard copies of the QTP modules; however, your workcenter requirements may require additional copies. Regardless, you should file the QTPs in an accessible location.

Typically, you will manage each module by first training the tasks and then, evaluating performance. Your local steps in performance may vary from the method listed in the QTP module. If this is the case, you are authorized to make changes to the first half of each module, (i.e. steps in task performance); however, the "performance checklist" is considered a *standard* and can not be altered. You may train the QTP modules in any sequence; however, when conducting training use an organized and methodical approach. This will reduce your training time and enhance your efforts.

When beginning any training process you should first, review the procedures in each module with the trainee. Second, direct the trainee to review the training references listed to prepare for task performance. Third, go through the steps in task

performance with the trainee, allowing enough time to adequately train each step (some modules may take longer to teach). Forth, evaluate the trainees work at each critical step--using the performance checklist at this point will be helpful. Fifth, evaluate the trainee's performance and provide feedback on any areas for improvement. Finally, when the trainee has successfully completed the task you must document and initial both the STS and the QTP progress record. If the trainee does not accomplish the module, conduct follow-up instruction until the trainee successfully completes the task.

The QTP project goal of the 381st Training Squadron, Sheppard AFB TX, is to publish a useable document for trainers and trainees. You are encouraged to send in changes or revisions to the QTP. A corrections/improvements letter is located on the last page of this QTP.

The inclusion of names of any specific commercial product, commodity, or service in this publication is for informational purposes only and does not imply endorsement by the Air Force.

	Page
Module 1. Preventing Projectiles in the Scanning Room.....	1
Module 2. Quenching the Magnet	5
Module 3. Conducting Emergency Evacuation of the Scanning Room.....	7
Module 4. Perform Startup or Shutdown Procedures on MRI System	9
Module 5. Perform Emergency Shutdown Procedures on MRI System	11
Module 6. Administer Intravenous Contrast Media During Magnetic Resonance Scans	13
Module 7. Perform Routine Brain MR	17
Module 8. Perform Routine Orbit MR.....	21
Module 9. Perform Routine C-Spine MR	25
Module 10. Perform Routine T-Spine MR	29
Module 11. Perform Routine L-Spine MR	33
Module 12. Perform Routine Soft Tissue Neck MR	37
Module 13. Perform Routine Shoulder MR.....	41
Module 14. Perform Routine Elbow MR.....	45
Module 15. Perform Routine Wrist MR	49
Module 16. Perform Routine Knee MR.....	53
Module 17. Perform Routine Pelvis/Hip MR	57
Module 18. Perform Routine Ankle MR	61
Module 19. Perform Routine TMJ MR	65
Qualification Training Progress Record.....	<i>Appendix A</i>
Corrections/Improvements Letter.....	<i>Appendix B</i>

This page intentionally left blank.

Module 1. Preventing Projectiles IN THE SCANNING ROOM

STS TASK REFERENCE(S):

24a(2) Preventing projectiles

TRAINING REFERENCE(S):

MRI for Technologists, 1995

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily prevent any and all magnetic items from entering the scan room. This includes informing patients, clinicians, nurses, housekeeping staff, maintenance staff, etc.

PERFORMANCE RESOURCES:

Patient questionnaire
Personal interview
Attending medical personnel, if required
GE MRI safety video tape

Department Standard Operating Procedures
Manufacturer's Safety manual
Patient and/or family member
Hand magnet or electronic metal detector

STEPS IN TASK PERFORMANCE:

1. Read and comprehend the Department Standard Operating Procedures / Operating Instructions
2. Read and comprehend Manufacturers Safety manual.
3. View and comprehend the General Electric MRI safety videotape
4. Review and interpret the patient questionnaire.
5. Greet patient and/or family member
6. Interview the patient
7. Inform the patient / all staff of the hazards involved with magnetic items associated with the magnet.
8. Gather required resources
9. Review written/verbal order from healthcare provider
10. Explain procedure and form to patient and/or family member
11. Receive completed magnetic resonance imaging questionnaire
12. Query patient and/or family member and all other personnel who will enter scanning room about metal implants, metal in the eyes, and metal or electronic devices in or on any part of their body
13. Obtain all pertinent information concerning any implants, such as make, model, manufacturer, lot number, and date, where, and when implanted
14. Contact radiologist immediately, if any doubt exists concerning any implants
15. Notify radiologist of information concerning implant
16. Proceed with examination after written clearance from radiologist
17. Obtain x rays, if there are any questions concerning metal in the eyes or the implant in question
18. Consult with radiologist after obtaining x rays to determine whether to proceed
19. Use hand magnet or electronic metal detector to check for ferrous qualities by performing a full body scan on all personnel for any metal items
20. Stop all actions if any items are found to be magnetic
21. Determine reason for magnetic item detection
22. Remove reason for magnetic detection, if possible
23. Obtain written clearance for proceeding with scan from radiologist
24. Proceed with scan
25. Return required resources

MODULE 1. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily prevent projectiles in the scanning room and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PREVENTING PROJECTILES IN THE SCANNING ROOM

DID THE TRAINEE_?	YES	NO
1. Read and comprehend the Department Standard Operating Procedures / Operating Instructions.		
2. Read and comprehend Manufacturers Safety manual.		
3. View and comprehend the manufacturer's MRI safety videotape.		
4. Review and interpret the patient questionnaire.		
5. Greet patient and/or family member.		
6. Interview the patient.		
7. Inform the patient and all staff of the hazards involved with magnetic items associated with the magnet.		
8. Gather required resources.		
9. Review written/verbal order from healthcare provider.		
10. Explain procedure and form to patient and/or family member.		
11. Receive completed magnetic resonance imaging questionnaire.		
12. Query patient and/or family member and all other personnel who will enter scanning room about metal implants, metal in the eyes, and metal or electronic devices in or on any part of their body.		
13. Obtain all pertinent information concerning any implants, such as make, model, manufacturer, lot number, and date, where, and when implanted.		
14. Contact radiologist immediately, if any doubt exists concerning any implants.		
15. Notify radiologist of information concerning implant.		
16. Proceed with examination after written clearance from radiologist.		
17. Obtain x rays, if there are any questions concerning metal in the eyes or the implant in question.		
18. Consult with radiologist after obtaining x rays to determine whether to proceed.		
19. Use hand magnet or electronic metal detector to check for ferrous qualities by performing a full-body scan on all personnel for any metal items.		

20. Stop all actions if any items are found to be magnetic.		
21. Determine reason for magnetic item detection		
22. Remove reason for magnetic detection, if possible.		
23. Obtain written clearance for proceeding with scan from radiologist.		
24. Proceed with scan.		
25. Return required resources.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 2. QUENCHING THE MAGNET

STS TASK REFERENCE(S):

24a(3) Quenching the magnet

TRAINING REFERENCE(S):

Appropriate manufacturer's instructions

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily Quench the magnet and perform all steps without assistance. Ensure proper safety precautions are followed.

PERFORMANCE RESOURCES:

Appropriate manufacturer's instructions

STEPS IN TASK PERFORMANCE:*

1. Read and comprehend the Department Standard Operating Procedures/Operating Instructions.
2. Read and comprehend system components chapter in the manufacturer's operating instructions.
3. Manually remove the patient from the magnet's bore
4. Exhaust every possibility before quenching the magnet i.e., contact GE service, radiologist and so on.
5. Turn and hold the toggle switch to either the "A" or "B" position and simultaneously depress the red magnetic run down button within the scan room.

***NOTE: This should be simulated due to the time and expense involved in this procedure.**

MODULE 2. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily quench the magnet and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

QUENCHING THE MAGNET

DID THE TRAINEE_?	YES	NO
1. Read and comprehend the Department Standard Operating Procedures/Operating Instructions.		
2. Read and comprehend system components chapter in the manufacturer's operating manual.		
3. Manually remove the patient from the magnet's bore		
4. Exhaust every possibility before quenching the magnet (i.e., contact service engineer, radiologist, etc.).		
5. Simulate turning and holding the toggle switch to either the "A" or "B" position and simultaneously depress the red magnetic run down button within the scan room.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 3. CONDUCTING EMERGENCY EVACUATION OF THE SCANNING ROOM

STS TASK REFERENCE(S):

24a(4) Emergency evacuation procedures

TRAINING REFERENCE(S):

Appropriate manufacturer's instructions
Gantry table
Heavy non-ferrous object, if required
Magnetic resonance imaging system
Magnetic resonance imaging system exam room
Patient

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily accomplish emergency evacuation procedures and perform all steps without assistance. Ensure proper safety precautions are followed

PERFORMANCE RESOURCES:

Appropriate manufacture's instructions
MRI For Technologists
Department Standard Operating Procedures Operating Instructions
Manufacturer's Safety manual

STEPS IN TASK PERFORMANCE:

1. Determine appropriate magnetic resonance imaging system being utilized
2. Identify critical anomalous operation or patient distress
3. Enter exam room, if scan room door can be opened
4. Push down on "undock" pedal on rear of table
5. Pull table and patient away from scanner
6. Remove table and patient from scanning room
7. Break glass with heavy non-ferrous object in case of "magnetic quench" and a vacuum exists making the scan room door impossible to open
8. Open scan room door, if possible
9. Climb through window if scan room door will not open
10. Perform steps 4 and 5
11. Perform step 6 if scan door will open
12. Assist patient in exiting through window as safely as possible, if scan room door will not open
13. Remove patient from immediate are / danger
14. Assess patient
15. Call for medical assistance, if necessary

MODULE 3. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily accomplish emergency evacuation procedures and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

CONDUCTING EMERGENCY EVACUATION OF THE SCANNING ROOM

DID THE TRAINEE_?	YES	NO
1. Determine appropriate magnetic resonance imaging system being utilized.		
2. Identify critical anomalous operation or patient distress.		
3. Enter exam room, if scan room door can be opened.		
4. Push down on "undock" pedal on rear of table.		
5. Pull table and patient away from scanner.		
6. Remove table and patient from scanning room.		
7. Break glass with heavy non-ferrous object in case of "magnetic quench" and a vacuum exists making the scan room door impossible to open.		
8. Open scan room door, if possible.		
9. Climb through window if scan room door will not open.		
10. Perform steps 4 and 5.		
11. Perform step 6 if scan door will open.		
12. Assist patient in exiting through window as safely as possible, if scan room door will not open.		
13. Remove patient from immediate danger.		
14. Assess patient.		
15. Call for medical assistance, if necessary.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 4. PERFORM STARTUP OR SHUTDOWN PROCEDURES ON MRI SYSTEM

STS TASK REFERENCE(S):

24i(1) Start up

TRAINING REFERENCE(S):

Appropriate manufacture's instructions

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily perform startup procedures on a MRI system.

PERFORMANCE RESOURCES:

Company field engineer, if required
Magnetic resonance imaging system

STEPS IN TASK PERFORMANCE:

1. Determine correct magnetic resonance system.
2. Ascertain cause for power outage, if applicable.
3. Contact company field engineer, if outage due to brownout or blackout conditions.
4. Stop procedure at this point, if power outage is due to brownout or blackout conditions.
5. Perform normal shutdown or startup by following directions giving by magnetic resonance system console computer software.
6. Complete start-up/shutdown procedure for console computer system only, observing magnetic field is always on.

MODULE 4. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily perform startup or shutdown procedures on a MRI system and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM STARTUP PROCEDURES ON MRI SYSTEM

DID THE TRAINEE_?	YES	NO
1. Determine correct magnetic resonance system.		
2. Ascertain cause for power outage, if applicable.		
3. Contact company field engineer, if outage due to brownout or blackout conditions.		
4. Stop procedure at this point, if power outage is due to brownout or blackout conditions.		
5. Perform normal shutdown or startup by following directions giving by magnetic resonance system console computer software.		
6. Complete start-up/shutdown procedure for console computer system only, observing magnetic field is always on.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 5. PERFORM EMERGENCY SHUTDOWN PROCEDURES ON MRI SYSTEM

STS TASK REFERENCE(S):

24i(3) Emergency shutdown

TRAINING REFERENCE(S):

Magnetic resonance imaging system

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily carry out emergency shutdown procedures on a MRI system

PERFORMANCE RESOURCES:

Appropriate manufacturer's instructions
MRI for Technologists

STEPS IN TASK PERFORMANCE:

1. Determine appropriate magnetic resonance imaging system being utilized
2. Identify critical anomalous operation
3. Press "EMERGENCY SHUTDOWN" button on scanning console to initiate immediate computer shutdown
4. Notify radiologist of action performed

MODULE 5. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily carry out emergency shutdown procedures on a MRI system and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM EMERGENCY SHUTDOWN PROCEDURES ON MRI SYSTEM

DID THE TRAINEE_?	YES	NO
1. Determine appropriate magnetic resonance imaging system being utilized.		
2. Identify critical anomalous operation.		
3. Press "EMERGENCY SHUTDOWN" button on scanning console to initiate immediate computer shutdown.		
4. Notify radiologist of action performed.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 6. ADMINISTER INTRAVENOUS CONTRAST MEDIA DURING MAGNETIC RESONANCE SCANS

STS TASK REFERENCE(S):

24j Establish IV injection

TRAINING REFERENCE(S):

AFI 46-102, Nursing Care

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily administer intravenous contrast media during magnetic resonance imaging scans.

PERFORMANCE RESOURCES:

Alcohol pad	Veni-gard
Appropriate disposal containers	Latex Penrose tubing
Appropriate gauge angiocatheter or butterfly needle	Personal protection gear
Appropriate magnetic resonance imaging contrast media	Radiologic Request
Adhesive bandage and or gauze with tape	
Gloves	

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Determine appropriate patient information is correct.
3. Enter patient arrival information into centralized health computer system, if available.
4. Gather required resources.
5. Greet patient and/or family member.
6. Review patient screening questionnaire with patient and/or family member for contraindications.
7. Explain procedure to patient and/or family member.
8. Don appropriate personal protection gear.
9. Draw proper amount of contrast media according to patient weight/consult.
10. Annotate on bottle time and date opened.
11. Locate most ideal vein in either arm to start an intravenous entry.
12. Place latex Penrose tubing above site to act as a tourniquet.
13. Wipe injection site with alcohol pad.
14. Insert angiocatheter or butterfly needle into vein until you get blood return.
15. Feed catheter tubing into vein while holding needle.
16. Take off tourniquet.
17. Pull out needle and place hub on tubing in an expedient manner.
18. Put on veni-gard to tape down catheter to arm.
19. Flush intravenous line with saline solution to ensure insertion is completed correctly.
20. Attach contrast media to intravenous line.
21. Inject contrast media.
22. Perform magnetic resonance scan.
23. Remove tape and intravenous line from patient.
24. Place adhesive bandage or gauze with tape over injection site.
25. Discard all disposable materials in appropriate containers.
26. Dismiss patient and/or family member to return to healthcare provider.

MODULE 6. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily administer intravenous contrast media during magnetic resonance imaging scans and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM IV INJECTIONS

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Determine appropriate patient information is correct.		
3. Enter patient arrival information into centralized health computer system, if available.		
4. Gather required resources.		
5. Greet patient and/or family member.		
6. Review patient screening questionnaire with patient and/or family member for contraindications.		
7. Explain procedure to patient and/or family member.		
8. Don appropriate personal protection gear.		
9. Draw proper amount of contrast media according to patient weight/consult.		
10. Annotate on bottle time and date opened.		
11. Locate most ideal vein in either arm to start an intravenous entry.		
12. Place latex Penrose tubing above site to act as a tourniquet.		
13. Wipe injection site with alcohol pad.		
14. Insert angiocatheter or butterfly needle into vein until blood returns.		
15. Feed catheter tubing into vein while holding needle.		
16. Take off tourniquet.		
17. Pull out needle and place hub on tubing in an expedient manner.		
18. Put on veni-gard to tape down catheter to arm		
19. Flush intravenous line with saline solution to ensure insertion is completed correctly.		
20. Attach contrast media to intravenous line.		
21. Inject contrast media.		

22. Perform magnetic resonance scan.		
23. Remove tape and intravenous line from patient.		
24. Place adhesive bandage or gauze with tape over injection site.		
25. Discard all disposable materials in appropriate containers.		
26. Dismiss patient and/or family member to return to healthcare provider.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 7. PERFORM ROUTINE BRAIN MR

STS TASK REFERENCE(S):

24k(1)(a) Brain

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine brain MR examination

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with appropriator coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 7. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine brain MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE BRAIN MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 8. PERFORM ROUTINE ORBIT MR

STS TASK REFERENCE(S):

24k(1)(d) Orbits

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine orbit MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 8. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine orbit MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE ORBIT MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 9. PERFORM ROUTINE C-SPINE MR

STS TASK REFERENCE(S):

24k(2) C-spine

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine C-Spine MR examination

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 9. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine C-Spine MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE C-SPINE MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 10. PERFORM ROUTINE T-SPINE MR

STS TASK REFERENCE(S):

24k(3) T-spine

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine T-Spine MR examination

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 10. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine T-Spine MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE T-SPINE MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 11. PERFORM ROUTINE L-SPINE MR

STS TASK REFERENCE(S):

24k(4) L-spine

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine L-Spine MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 11. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine L-Spine MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE L-SPINE MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 12. PERFORM ROUTINE SOFT TISSUE NECK MR

STS TASK REFERENCE(S):

24k(5) Anterior neck

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine soft tissue neck MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 12. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine soft tissue neck MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE SOFT TISSUE NECK MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 13. PERFORM ROUTINE SHOULDER MR

STS TASK REFERENCE(S):

24k(6) Shoulder

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine shoulder MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 13. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine shoulder MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE SHOULDER MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 14. PERFORM ROUTINE ELBOW MR

STS TASK REFERENCE(S):

24k(7) Elbow

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine elbow MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 14. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine elbow MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE ELBOW MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 15. PERFORM ROUTINE WRIST MR

STS TASK REFERENCE(S):

24k(8) Wrist

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine wrist MR examination

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 15. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine wrist MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE WRIST MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 16. PERFORM ROUTINE KNEE MR

STS TASK REFERENCE(S):

24k(9) Knee

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine knee MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 16. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine knee MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE KNEE MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 17. PERFORM ROUTINE PELVIS/HIP MR

STS TASK REFERENCE(S):

24k(10) Pelvis/hips

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine pelvis/hip MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 17. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine pelvis/hip MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE PELVIS/HIP MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 18. PERFORM ROUTINE ANKLE MR

STS TASK REFERENCE(S):

24k(11) Ankle

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine ankle MR examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 18. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine ankle MR examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE ANKLE MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

MODULE 19. PERFORM ROUTINE TMJ MR

STS TASK REFERENCE(S):

24k(12) Temporomandibular joint

TRAINING REFERENCE(S):

Applicable operating instructions

Appropriate manufacturer's instructions

Gray's Anatomy

Merrill's Atlas of Radiographic Positions and Radiologic Procedures

MRI for Technologists

EVALUATION INSTRUCTIONS:

The trainee must be able to satisfactorily produce a routine TMJ examination.

PERFORMANCE RESOURCES:

Appropriate radiograph films

Appropriate scan order/protocol request

Appropriate/dedicated coil

Composite Health Care System (CHCS)

Gowns and/or linen, as required

Hand magnet or electronic metal detector

Magnetic resonance imaging system

Patient and/or family member

Radiographic film processor/Laser printer

Radiologist

STEPS IN TASK PERFORMANCE:

1. Receive written/verbal order from healthcare provider.
2. Review consult for type of protocol required for exam.
3. Have radiologist approve/protocol the order.
4. Prepare scan room with proper coil.
5. Enter patient arrival information into centralized health computer system, if available.
6. Gather required resources.
7. Greet patient and/or family member.
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.
12. Show video to patient and/or family member if video is available.
13. Answer any questions patient and/or family member may have.
14. Have patient and/or family member sign form.
15. Have patient remove garments and change into gown, if required.
16. Prepare scan room with proper coil.
17. Assist patient with earplugs, if necessary.
18. Scan patient for metal objects with hand magnet or electronic metal detector.
19. Position patient on table/coil according to specified exam required.
20. Landmark correct location.
21. Advance patient to scanning location.
22. Talk to patient to ensure 2-way communication.
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.
24. Perform exam according to established department protocols.
25. Select format for printing.
26. Perform window, print, and archive functions while scanning.
27. Complete scan.
28. Assist patient from positioning couch.
29. Have patient remove gown and change into clothes, if required.
30. Process films.
31. Perform quality control check on films.
32. Dismiss patient and/or family member to return to healthcare provider.
33. Enter patient departure information in centralized health computer system, if available.
34. Discard all disposable materials in appropriate containers.
35. Return required resources.
36. Give image films to radiologist.

MODULE 19. PERFORMANCE CHECKLIST

INSTRUCTIONS:

The trainee must be able to satisfactorily produce a diagnostic routine TMJ examination and perform all steps without assistance. Ensure proper safety precautions are followed. Evaluate the trainee's performance using this checklist.

PERFORM ROUTINE TMJ MR

DID THE TRAINEE_?	YES	NO
1. Receive written/verbal order from healthcare provider.		
2. Review consult for type of protocol required for exam.		
3. Have radiologist approve/protocol the order.		
4. Prepare scan room with proper coil.		
5. Enter patient arrival information into centralized health computer system, if available.		
6. Gather required resources.		
7. Greet patient and/or family member.		
8. Have patient and/or family member complete magnetic resonance imaging questionnaire.		
9. Review magnetic resonance imaging patient screening questionnaire by each line item with patient and/or family member for contraindications.		
10. Explain exam type, duration, contrast media, if required for exam, clothing requirements and noises associated with magnetic resonance imaging scans to patient and/or family member.		
11. Inform patient and/or family member of the extreme importance of removing all metal before entering exam room.		
12. Show video to patient and/or family member if video is available.		
13. Answer any questions patient and/or family member may have.		
14. Have patient and/or family member sign form.		
15. Have patient remove garments and change into gown, if required.		
16. Prepare scan room with proper coil.		
17. Assist patient with earplugs, if necessary.		
18. Scan patient for metal objects with hand magnet or electronic metal detector.		
19. Position patient on table/coil according to specified exam required.		

20. Landmark correct location.		
21. Advance patient to scanning location.		
22. Talk to patient to ensure 2-way communication.		
23. Enter correct exam sequences into system according to study requested in order to minimize time spent in unit and provide maximum diagnostic information.		
24. Perform exam according to established department protocols.		
25. Select format for printing.		
26. Perform window, print, and archive functions while scanning.		
27. Complete scan.		
28. Assist patient from positioning couch.		
29. Have patient remove gown and change into clothes, if required.		
30. Process films.		
31. Perform quality control check on films.		
32. Dismiss patient and/or family member to return to healthcare provider.		
33. Enter patient departure information in centralized health computer system, if available.		
34. Discard all disposable materials in appropriate containers.		
35. Return required resources.		
36. Give image films to radiologist.		

FEEDBACK:

Using this checklist as a source of information, discuss the trainee's performance indicating strengths and weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, both the trainer and trainee should certify performance by appropriately documenting the OJT record.

Appendix A

Magnetic Resonance Imaging Qualification Training Progress Record

Rank/Name _____

Upgrade Training to 3-Skill Level

<i>Volume 1. General Skills</i>

<i>Core Task</i>	<i>Module Number</i>	<i>Page Number</i>	<i>Module Title</i>	<i>Date Completed</i>	<i>Trainer's Initials</i>
*	1.	1	Preventing Projectiles in the Scanning Room		
*	2.	5	Quenching the Magnet		
*	3.	7	Conducting Emergency Evacuation of the Scanning Room		
*	4.	9	Perform Startup or Shutdown Procedures on MRI System		
*	5.	11	Perform Emergency Shutdown Procedures on MRI System		
*	6.	13	Administer Intravenous Contrast Media for a MRI Scan		
*	7.	17	Perform Routine Brain MR		
*	8.	21	Perform Routine Orbit MR		
*	9.	25	Perform Routine C-Spine MR		
*	10.	29	Perform Routine T-Spine MR		
*	11.	33	Perform Routine L-Spine MR		
*	12.	37	Perform Routine Soft Tissue Neck MR		
*	13.	41	Perform Routine Shoulder MR		
*	14.	45	Perform Routine Elbow MR		
*	15.	49	Perform Routine Wrist MR		
*	16.	53	Perform Routine Knee MR		
*	17.	57	Perform Routine Pelvis/Hip MR		
*	18.	61	Perform Routine Ankle MR		
*	19.	65	Perform Routine TMJ MR		

Appendix B

MEMORANDUM FOR 381 TRS/XWBA (CDC Manager)
917 Missile Rd
Sheppard AFB TX 76311-2246

FROM:

SUBJECT: Qualification Training Package Improvement

1. Identify volume and module.

Volume # _____

Module # and title _____

2. Identify improvement/correction section(s)

_____ STS Task reference

_____ Training Reference

_____ Evaluation Instructions

_____ Performance Resources

_____ Steps in Task Performance

_____ Performance Checklist

_____ Feedback

_____ Format

_____ Other

3. Recommended changes--use a continuation sheet if necessary.

4. You may choose to call in your recommendations to DSN 736-4494 or FAX them to DSN 736-2210 or Commercial (940) 676-2210.

5. Thank you for your time and interest.

YOUR NAME, RANK, USAF
Title/Position